THE INFLUENCE OF SOCIO-TECHNICAL FACTORS ON KNOWLEDGE-SHARING TOWARDS INNOVATION IN SAUDI ARABIA: A KNOWLEDGE-BASED INNOVATION CAPABILITY PROSPECTIVE

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BY

FAHAD ASAAD AL. OTHMAN

Bachelor of Computer Systems Engineering, Master of Information Technology

FACULTY OF ENGINEERING AND INFORMATION

TECHNOLOGY

UNIVERSITY OF TECHNOLOGY, SYDNEY

CITY CAMPUS

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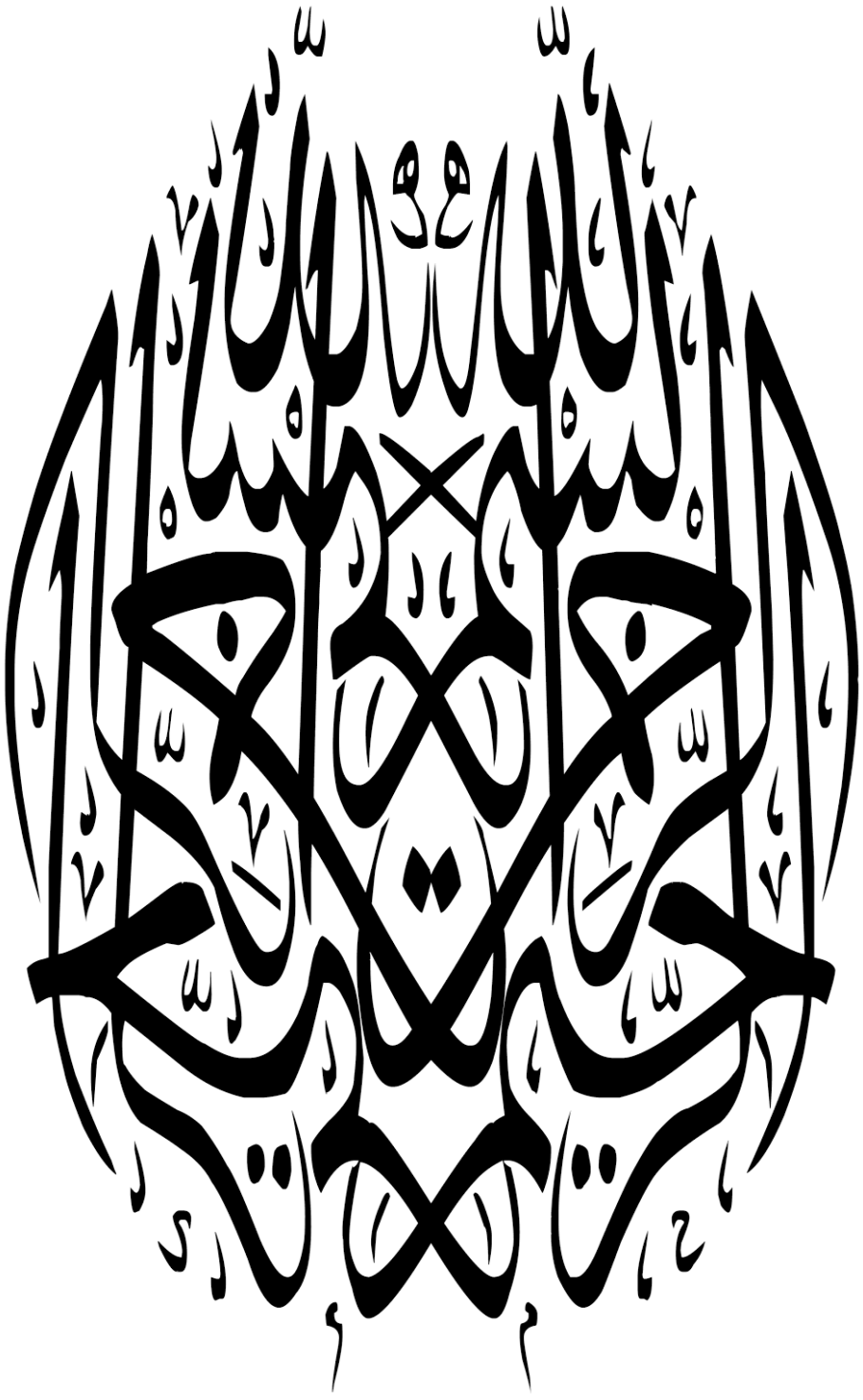

This thesis is dedicated to my mother and my father, my wife, and my children

CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Abstract

The Saudi Arabian Government has recognised the need for an alternative path to national development in the form of a knowledge-based economy (KBE). So that they can achieve this aim, it is important to understand the socio-technical enablers (STE) of a KBE initiative, particularly with regards to the phenomenon of knowledge-sharing. One of the key drivers of a knowledge-based economy KBE is innovation. A must-have core competency for the adopting organisation is the ability to manage their innovation capability.

A conceptual model developed in the thesis to investigate what is required to achieve that organisational innovation capability contains four construct domains: socio-technical enablers (STEF); diffusion of innovation (DOI) dimensions; knowledge-sharing processes (KSP); and organisational innovation capability (OIC). This thesis demonstrates the extent to which STE combine with the dimensions of the DOI to result in processes of knowledge-sharing. Ultimately, successful OIC will depend on the interrelation of these factors.

This empirical research study was conducted to provide a better understanding on the model interrelationships among the key constructs: knowledge-sharing, socio-technical factors, DOI adoption characteristics, KSP and OIC, within the Saudi Arabian organisational context. The key participants for this study are both managers and employees. Participants were selected from different levels in the organisation because it is very important to understand the current knowledge sharing processes underpinning innovation across the different layers and structures in the organisation. Moreover, including employees from both different levels relates to both top-down and bottom-up decision-making processes in Saudi organisations. As a result, the main objective of this study was to develop a research model that depicts the relationships between the enablers, processes and outcome constructs in Saudi Arabian firms.

To empirically validate the conceptual model, this research study deployed a sequential mixed method that incorporated both quantitative and qualitative approaches of analysis. Phase one of the research study employed a quantitative method to develop the conceptual model, based on the collected data from a questionnaire targeting Saudi Arabian firms from different sectors and industries. The quantitative method used

Exploratory Factor Analysis (EFA), a Confirmatory Factor Analysis (CFA), and Structural Equation Modelling (SEM). EFA and CFA were carried out to find the suitable model structures and then SEM and correlation analysis were performed to assess and refine the conceptual model by evaluating the relationships and test the hypotheses between the constructs.

The results reveal three statistically significant relationships:

> STF→ KSP→ OIC, which shaped an essential part of the final empirical model as the relationships among the Enablers → Processes → Outcomes.

Based on the phase one results, a qualitative research method was carried out as a second phase of the analysis phase, which supports the validity of the structural and measurement final model. Thus, explanatory case studies were conducted of six different Saudi Arabian organisations using semi-structured, face-to-face interviews with key personnel within the firms. The purpose out of this phase was to discover whether the empirical model can be validated by a sequential qualitative data collected from certain organisational work settings. This phase was accomplished through a technique called pattern matching, where the patterns of relationships between the constructs depicted in the empirical model was compared with those identified from the case studies.

The case studies all demonstrated overall good matches between the patterns of relationships uncovered from the case studies and the relationships hypothesised in the empirical model. These findings provided support for the validity of the research model in terms of representing the current phenomena of this research study. From these empirical findings, the study is able to offer a number of implications that are beneficial to Saudi Arabia's initiative towards adoption of KBE seeking to enhance the Saudi organisations to enable knowledge-sharing and enrich the company's OIC. Finally, future research directions were identified to extend the final results of the current research study.

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Glossary		
Abbreviation	Description	Definition
CFA	Confirmatory Factor Analysis	A type of factor analysis used in social research to test whether measures of a factor (or construct) are consistent with a researcher's understanding of the nature of that construct
DOI	Diffusion of Innovation	A theory developed by E.M. Rogers (1962) to explain the spread (diffusion) of an idea or product over time through a specific population or social system
EFA	Exploratory Factor Analysis	A technique in factor analysis where a statistical method is used to expose the structure underpinning a large set of variables
HRM	Human Resources Management	A mode of management that focuses primarily on employees and their importance to organisational outcomes
ICT	Information Communication Technology	Communication and telecommunication systems used to retrieve, store, transmit, and manipulate information
IS	Information Systems	A system comprising people and computers that processes or interprets information
IT	Information Technology	Computers and telecommunications systems for storing, retrieving, and sending information
KBE	Knowledge-based economy	An economic system based on the consumption and production of intellectual capital (knowledge)
KSP	Knowledge-sharing processes	The process of exchanging knowledge in the form of skills, experience, and/or understanding among a individuals with a common purpose
NIE	National Innovation Ecosystem	The economic dynamics of the relationship between individuals or organisations whose goal is to facilitate technology development and innovation
OIC	Organisational Innovation Capability	The capabilities of the organisation to deliver superior value to its customers through innovation
R&D	Research and Development	Industry /organisational initiatives to support innovation and the improvement and/or introduction of products and services
STF	Socio-technical enablers	Social systems combined with information technology support to support knowledge sharing
SEM	Structural Equation Modelling	The term used to refer to two computer based statistical fit software packages: PLS-PA and LISREL/AMOS
TPB	Theory of Planned Behaviour	A theory proposed by Icek Ajzen to explore the relationship between beliefs and behaviour
TMS	Top Management Support	The degree to which the top management support the organisational climate of knowledge-sharing by providing sufficient resources and influencing the employee willingness to share knowledge